WHAT IS CLAIMED IS:

1. A switching device for controlling a connection between at least one private computer, at least one terminal corresponding to the private computer, and a shared computer that can be operated by the terminal, the switching device comprising:

connecting unit that connects each terminal to a corresponding private computer in a default status, and switches a connection destination of the terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received; and

security unit that executes for each terminal an identification processing to the data that has been received from any one terminal and output to the private computer or the shared computer.

2. The switching device according to Claim 1, wherein

the security unit comprises:

enciphering unit that executes an enciphering processing own to each terminal, to the data that has been transmitted from any one terminal and received by the switching device;

first deciphering unit that executes a deciphering processing corresponding to the enciphering processing own to the terminal corresponding to the private computer, to the data that has been output from the switching device to any one private computer; and

second deciphering unit that executes a deciphering processing corresponding to the enciphering processing own to the terminal currently connected to the shared computer, to the data that has been output from the switching device to the shared computer.

3. The switching device according to Claim 2, wherein

the enciphering unit bit shifts the

received data to a first direction between a highest bit and a lowest bit by only a number of each terminal,

the first deciphering unit bit shifts the output data to a second direction opposite to the first direction by a number of a terminal corresponding to the private computer, and

the second deciphering unit bit shifts the output data to a second direction opposite to the first direction by a number of a terminal currently connected to the shared computer.

4. The switching device according to Claim 1, wherein

the connecting unit comprises:

detecting unit that detects whether or not a key code of a predetermined key transmitted from any terminal has been received by a predetermined number during a predetermined period of time; and

switching unit that cancels a connection of the terminal when the terminal has been connected to the shared computer, and switches the connection to a private computer corresponding to the terminal, that cancels a connection of the terminal when the terminal has been connected to a private computer corresponding to the terminal, and switches the connection to the shared computer, and that disregards the connection switching request when a terminal other than the corresponding terminal has already been connected to the shared computer, at the time when the detecting unit has detected the above.

5. The switching device according to Claim 1, further comprising posting unit that posts a connection status of the shared computer to each terminal.

6. The switching device according to Claim 5, wherein the posting unit posts to each terminal that the shared computer is currently being used, when the shared computer is currently being connected to any terminal.

7. A switching method in a switching device for

controlling a connection between at least one private computer, at least one terminal corresponding to the private computer, and a shared computer that can be operated by the terminal, the switching method
5   comprising:

a connection step at which each terminal is connected to a corresponding private computer in a default status, and a connection destination of the terminal is switched to a private computer corresponding
10 to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received; and

a security step at which an identification processing for each terminal is executed on the data that
15 has been received from any one terminal and output to the private computer or the shared computer.

8.   The switching method according to Claim 7, wherein

the security step comprises:
20   an enciphering step at which an enciphering processing of each terminal is executed on the data that has been transmitted from any one terminal and received by the switching device;

a first deciphering step at which a
25 deciphering processing corresponding to the enciphering processing of the terminal corresponding to the private computer is executed to the data that has been output from the switching device to any one private computer; and

30   a second deciphering step at which a deciphering processing corresponding to the enciphering processing of the terminal currently connected to the shared computer is executed to the data that has been output from the switching device to the shared computer.

35 9.   The switching method according to Claim 8, wherein

at the enciphering step, the received data

is bit shifted to a first direction between a highest bit and a lowest bit by only a number of each terminal,

at the first deciphering step, the output data is bit shifted to a second direction opposite to the first direction by a number of a terminal corresponding to the private computer, and

at the second deciphering step, the output data is bit shifted to a second direction opposite to the first direction by a number of a terminal currently connected to the shared computer.

10. The switching method according to Claim 7, wherein

the connection step comprises:

a detection step at which it is detected whether or not a key code of a predetermined key transmitted from any terminal has been received by a predetermined number during a predetermined period of time; and

a switching step at which a connection of the terminal is canceled when the terminal has been connected to the shared computer, and the connection is switched to a private computer corresponding to the terminal, a connection of the terminal is canceled when the terminal has been connected to a private computer corresponding to the terminal, and the connection is switched to the shared computer, and the connection switching request is disregarded when a terminal other than the corresponding terminal has already been connected to the shared computer, at the time when the above detection has been carried out at the detection step.

11. The switching method according to Claim 7, further comprising a posting step at which a connection status of the shared computer is posted to each terminal.

12. The switching method according to Claim 11, wherein at the posting step, a state that the shared computer is currently being used is posted to each

terminal, when the shared computer is currently connected to any terminal.

13. A computer system comprising:

at least one private computer;

a terminal corresponding to the private computer;

at least one shared computer connected to a network; and

a switching device disposed between the private computer and the terminal, for relaying data between the terminal and the shared computer, the switching device comprising:

connecting unit that connects each terminal to a corresponding private computer in a default status, and switches a connection destination of the terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received; and

security unit that executes, for each terminal an identification processing on the data that has been received from any one terminal and output to the private computer or the shared computer.

14. The computer system according to Claim 13, wherein the at least one computer is connected to a further network independent of said network.

15. The computer system according to Claim 13, wherein the network is the Internet.

16. The computer system according to Claim 14, wherein the further network is an intranet.

17. A computer system comprising:

at least one private computer;

a terminal corresponding to the private computer;

at least one shared computer connected to a network; and

a switching device disposed between the

private computer and the terminal, for relaying data between the terminal and the shared computer, the switching device comprising:

connecting unit that connects each terminal to a corresponding private computer in a default status, and switches a connection destination of the terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received; and

security unit that executes for each terminal an identification processing on the data that has been received from any one terminal and output to the private computer or the shared computer, the security unit comprising:

enciphering unit that executes an enciphering processing of each terminal, to the data that has been transmitted from any one terminal and received by the switching device;

first deciphering unit that executes a deciphering processing corresponding to the enciphering processing of the terminal corresponding to the private computer, on the data that has been output from the switching device to any one private computer; and

second deciphering unit that executes a deciphering processing corresponding to the enciphering processing own to the terminal currently connected to the shared computer, on the data that has been output from the switching device to the shared computer.

18. The computer system according to Claim 17, wherein the at least one computer is connected to a further network independent of said network.

19. The computer system according to Claim 17, wherein the network is the Internet.

20. The computer system according to Claim 18, wherein the further network is an intranet.

21. A computer system comprising:

at least one private computer;

a terminal corresponding to the private computer;

at least one shared computer connected to a network; and

a switching device disposed between the private computer and the terminal, for relaying data between the terminal and the shared computer, the switching device comprising:

connecting unit that connects each terminal to a corresponding private computer in a default status, and switches a connection destination of the terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received; and

security unit that executes for each terminal an identification processing on the data that has been received from any one terminal and output to the private computer or the shared computer, the security unit comprising:

enciphering unit that executes an enciphering processing of each terminal, on the data that has been transmitted from any one terminal and received by the switching device, the enciphering unit for bit shifting the received data in a first direction between a highest bit and a lowest bit by a number of each terminal;

first deciphering unit that executes a deciphering processing corresponding to the enciphering processing of the terminal corresponding to the private computer, on the data that has been output from the switching device to any one private computer, the first deciphering unit for bit shifting the output data to a second direction opposite to the first direction by a number of a terminal corresponding to the private computer; and

second deciphering unit that executes a deciphering processing corresponding to the enciphering processing of the terminal currently connected to the shared computer, on the data that has been output from the switching device to the shared computer, the second deciphering unit for bit shifting the output data to a second direction opposite to the first direction by a number of a terminal currently connected to the private computer.

22. The computer system according to Claim 21, wherein the at least one computer is connected to a further network independent of said network.

23. The computer system according to Claim 21, wherein the network is the Internet.

24. The computer system according to Claim 22, wherein the further network is an intranet.

25. A computer system comprising:

at least one private computer;

a terminal corresponding to the private computer;

at least one shared computer connected to a network; and

a switching device disposed between the private computer and the terminal, for relaying data between the terminal and the shared computer, the switching device comprising:

connecting unit that connects each terminal to a corresponding private computer in a default status, and switches a connection destination of the terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received, the connecting unit comprising:

detecting unit that detects whether or not a key code of a predetermined key transmitted from any terminal has been received by a predetermined number during a predetermined period of time; and

switching unit that cancels a
connection of the terminal when the terminal has been
connected to the shared computer, and switches the
connection to a private computer corresponding to the
terminal, that cancels a connection of the terminal when
the terminal has been connected to a private computer
corresponding to the terminal, and switches the
connection to the shared computer, and that disregards
the connection switching request when a terminal other
than the corresponding terminal has already been
connected to the shared computer, at the time when the
detecting unit has detected the above; and

security unit that executes, for each
terminal, an identification processing on the data that
has been received from any one terminal and output to the
private computer or the shared computer.

26. The computer system according to Claim 25,
wherein the at least one computer is connected to a
further network independent of said network.

27. The computer system according to Claim 25,
wherein the network is the Internet.

28. The computer system according to Claim 26,
wherein the further network is an intranet.

29. A computer system comprising:

at least one private computer;

a terminal corresponding to the private
computer;

at least one shared computer connected to
a network; and

a switching device disposed between the
private computer and the terminal, for relaying data
between the terminal and the shared computer, the
switching device comprising:

connecting unit that connects each
terminal to a corresponding private computer in a default
status, and switches a connection destination of the
terminal to a private computer corresponding to said

terminal or the shared computer when a connection switching request transmitted from said terminal has been received;

security unit that executes for each terminal an identification processing to the data that has been received from any one terminal and output to the private computer or the shared computer; and

posting unit that posts a connection status of the shared computer to each terminal.

30. The computer system according to Claim 29, wherein the at least one computer is connected to a further network independent of said network.

31. The computer system according to Claim 29, wherein the network is the Internet.

32. The computer system according to Claim 30, wherein the further network is an intranet.

33. A computer system comprising:

at least one private computer;

a terminal corresponding to the private computer;

at least one shared computer connected to a network; and

a switching device disposed between the private computer and the terminal, for relaying data between the terminal and the shared computer, the switching device comprising:

connecting unit that connects each terminal to a corresponding private computer in a default status, and switches a connection destination of the terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received;

security unit that executes for each terminal an identification processing to the data that has been received from any one terminal and output to the private computer or the shared computer; and

posting unit that posts a connection status of the shared computer to each terminal, the posting unit for posting to each terminal that the shared computer is currently being used, when the shared computer is currently being connected to any terminal.

34. The computer system according to Claim 33, wherein the at least one computer is connected to a further network independent of said network.

35. The computer system according to Claim 33, wherein the network is the Internet.

36. The computer system according to Claim 34, wherein the further network is an intranet.